

B¹ cont. molecules are aligned in a direction substantially vertical to the substrates when no voltage is being applied and axis-symmetrically aligned in each of a plurality of pixel regions under application of a voltage, wherein a thickness (d_{in}) of the liquid crystal layer in the pixel region is larger than a thickness (d_{out}) of the liquid crystal layer outside of the pixel region, and the device includes a homeotropic alignment layer in a region corresponding to the pixel region on a surface of at least one of the substrates on the liquid crystal layer side.

B² 3. (Amended) A liquid crystal display device according to claim 1, wherein at least one of the substrates has convex portions defining the pixel region on a surface on the liquid crystal layer side.

B³ 22. (Amended) A liquid crystal display device, comprising:
a pair of substrates and a liquid crystal layer provided between the substrates,
wherein liquid crystal molecules in the liquid crystal layer have a negative dielectric anisotropy, and the liquid crystal molecules are aligned in a direction substantially vertical to the substrates when no driving voltage is being applied and axis-symmetrically aligned around an axis-symmetrical alignment central axis in each of a plurality of pixel regions under application of a driving voltage, and
a convex portion defining each of the pixel regions is provided on a surface of at least one of the substrates on the liquid crystal layer side, and said convex portion includes a treatment for controlling a position of the axis-symmetrical alignment central axis.

B⁴ 24. A liquid crystal display device comprising:

a pair of substrates and a liquid crystal layer provided between the substrates,
wherein liquid crystal molecules in the liquid crystal layer have a negative
dielectric anisotropy, and the liquid crystal molecules are aligned in a direction
substantially vertical to the substrates when no driving voltage is being applied and axis-
symmetrically aligned around an axis-symmetrical alignment central axis in each of a
plurality of pixel regions under application of a driving voltage, and

a convex portion defining each of the pixel regions is provided on a surface of at
least one of the substrates on the liquid crystal layer side, and said convex portion
includes a treatment for controlling a position of the axis-symmetrical alignment central
axis, and

each pixel region includes an Sa region in which the liquid crystal molecules keep
a homeotropic alignment state under application of an axis-symmetrical alignment central
axis forming voltage,

wherein the Sa region is an area of the pixel region in which the liquid crystal
molecules keep a homeotropic alignment state under the application of the axis-
symmetrical alignment central axis forming voltage, A is an area of the pixel region, and
Sa/A satisfies the relationship $0 < Sa/A < 4\%$.

26. A liquid crystal display device comprising:

a pair of substrates and a liquid crystal layer provided between the substrates,
wherein liquid crystal molecules in the liquid crystal layer have a negative
dielectric anisotropy, and the liquid crystal molecules are aligned in a direction
substantially vertical to the substrates when no driving voltage is being applied and axis-